

# Hyperion 3D

Energy-saving solution for industrial doors

## Original instructions

### 1 Safety instructions



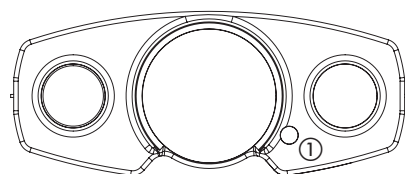
- The device may only be connected to a SELV (safety extra low-voltage) system with safe electrical separation.
- The device may only be opened and repaired by your supplier or a qualified technician.
- If automating a manual or semi-automatic door, make sure all required safety devices are existent and operational.
- This equipment is not suitable for use in locations where children are likely to be present.

### 2 Description of system components

#### Hyperion 3D-M, Hyperion 3D-S

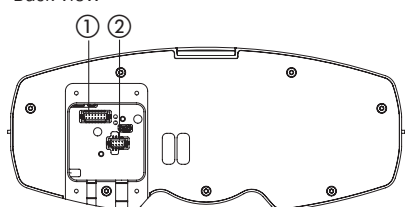
-M = Master sensor, -S = Slave sensor

Front view

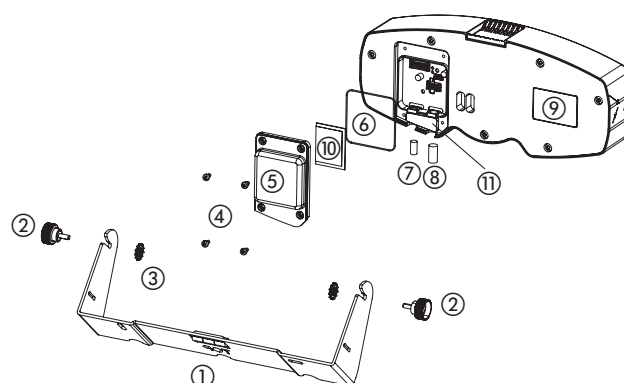


① LED display

Back view



- ① Connection to industrial door control system
- ② Master / Slave connection

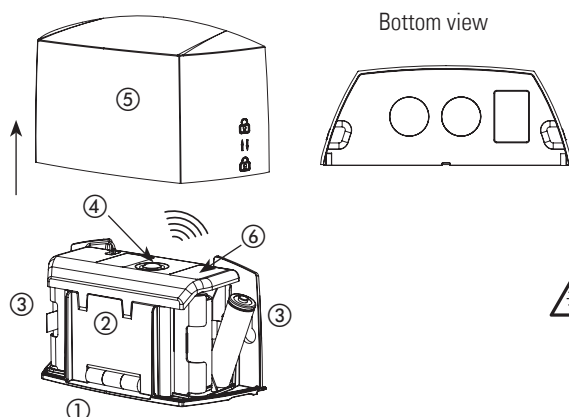


- ① Mounting bracket
- ② Angle fixing screws
- ③ Locking washers
- ④ Screws (**Torx 10**) for cable compartment cover
- ⑤ Cover for cable compartment
- ⑥ Seal
- ⑦ Blind plug for data cable
- ⑧ Blind plug for control cable
- ⑨ Label (serial no.)
- ⑩ Silica gel
- ⑪ Cable holder

#### Hyperion 3D-H

-H = Height sensor

Bottom view



- ① Laser distance measurement
- ② Short guide
- ③ Battery compartments
- ④ Button and status LED
- ⑤ Cover
- ⑥ Label (serial no.)



#### Caution:

Laser radiation! Do not stare into beam or view directly with optical instruments.

#### Laser class 1

According to EN/IEC 60825-1:2014  
Invisible laser radiation.

## 2.1 Box contents

### Hyperion 3D-2W (2-way kit)

- Sensor
- Mounting bracket
- Control cable master sensor to industrial door control system, 12 m
- Data cable master to slave sensor, 10 m
- QR codes of sensor (for establishing connection via app Bircher SmartConnect)

### Hyperion 3D-H

- Sensor
- 4 AA batteries, > 2700 mAh

## 3 Manufacturer declarations

1. This product is a optical sensor system intended for mounting on a wall or ceiling and used with an industrial door.
2. When adjusting the detection zone, make sure that there are no moving objects inside the zone.
3. Before switching on the power supply, check the wiring as a precaution to prevent any damage or malfunction affecting the equipment connected to the product.
4. Only use the product as described in this manual.
5. Make sure to install and adjust the sensor in line with the laws and safety standard that apply in the country where the product is being installed (e.g. DIN EN 12453).
6. If you are leaving the installation site, make sure that the product is working properly and has been installed correctly. Explain to the building owner/operator the correct way of operating the industrial door and the product.
7. Only an installer or a service technician may change the product settings. If changes are required, the settings that are made and the date on which they are made must be recorded in the industrial door maintenance manual.

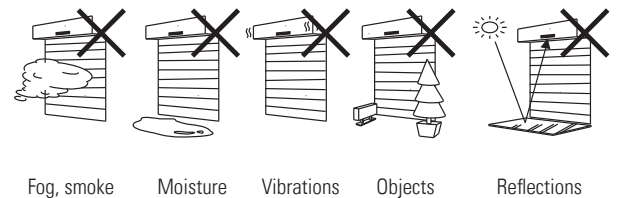


**Caution:** Failure to observe the applicable instructions and handling the equipment incorrectly can result in personal injury and/or damage to property.



**Note:** Pay particular attention to sections with this symbol.

The following conditions are unsuitable for detector installation:

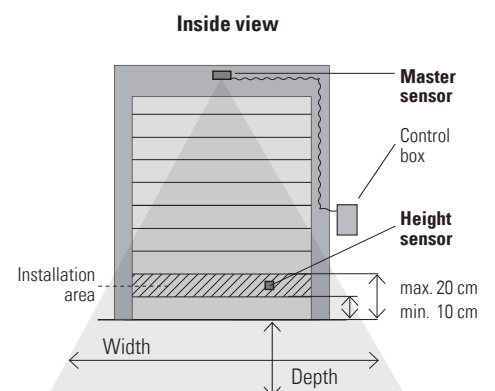
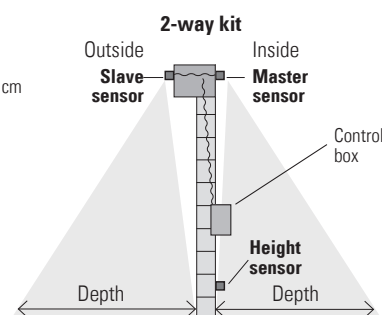
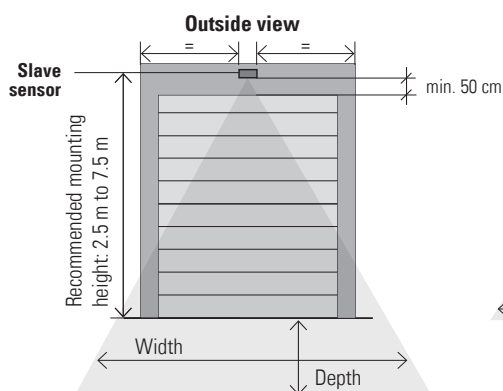


Make sure vision of sensor is not obstructed (e.g spider web)

## 4 Installation

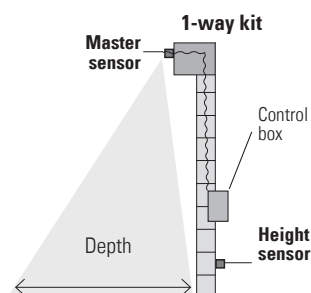
### 4.1 Mechanical mounting

The sensor is to be used for industrial doors.



Screw recommendation

- **metal surface:**  
self-drilling Ø 4.2 x 22 mm
- **concrete surface:**  
pan head Ø 4.2 x 22 mm  
(anchor 6 x 30 mm)



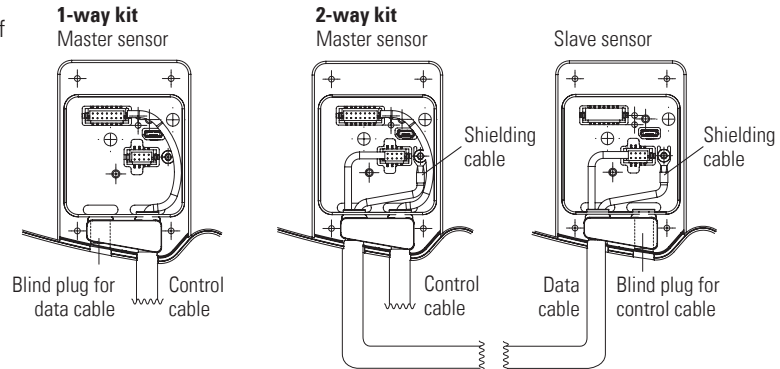
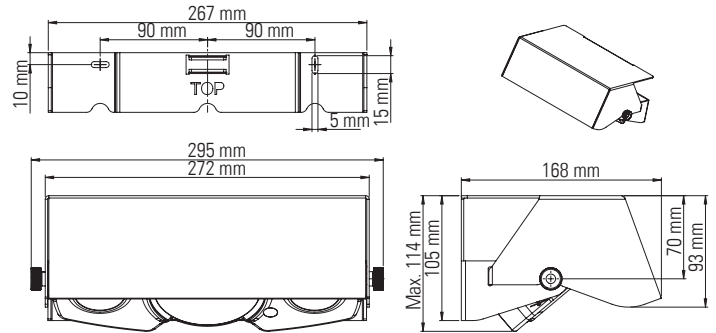
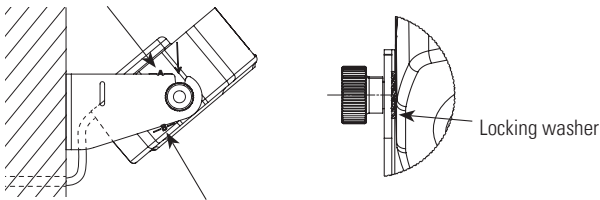
**2-way kit:** Master /slave sensor can be mounted inside or outside of the industrial door. Choose position for easiest wiring. Mounting of master and height sensor on the inside is **preferred** in order to ensure optimal sensor communication.

## Hyperion 3D-2W (2-way kit)

### Installation site

Mount the device in the middle above the industrial door.  
The sensor must be mounted safely on a flat surface (avoid vibrations).  
The sensor's field of vision must not be obscured by covers or signs.

1. Attach the mounting bracket firmly and horizontally onto the wall (2x)
2. Route the control cable (to door control unit 12 m, Ø 8 mm, plug 12 mm), best below mounting bracket.
3. Plug the connector into the sensor
4. Screw on the cable compartment cover (60 cNm)
5. Hook the sensor into the mounting bracket:  
for a mounting height up to 4.5 m align letter with "A",  
for a mounting height > 4.5 m align with letter "B"  
then tighten handscrews (~ 1 Nm).  
The sensing field shall not see the door, it can be viewed with help of the app Bircher SmartConnect, see chapter 4.2, no. 3a.
6. Add weather shield to weather exposed sensor.

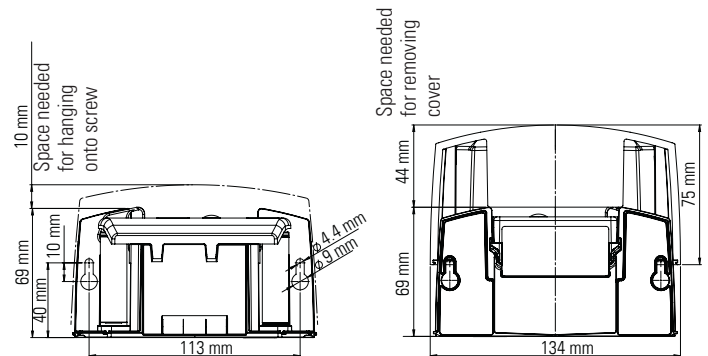


## Hyperion 3D-H

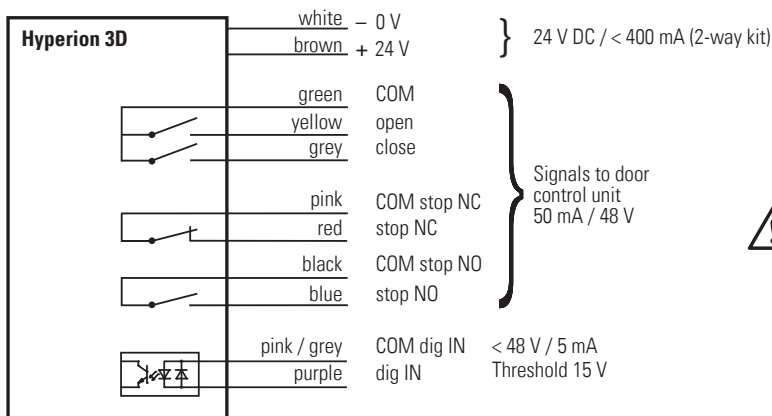
### Installation site

Mount the height sensor in the marked area at the bottom of the industrial door panel (see illustration above).  
The sensor must not collide with anything while the industrial door is moving.  
The height sensor must be mounted on the **inside** of the industrial door.

1. Remove the cover.
2. Insert 4 AA batteries.
3. Attach the sensor with screws to the bottom of the industrial door.
4. Plug in battery cable. **Caution:** observe polarity.



## 4.2 Electrical connections



### Digital Input (dig IN):

With the digital input, the sensor can be deactivated, e.g. overnight by a timer or by a remote program selector switch.

BBC Bircher AG declines all responsibility regarding the use of the digital input. To deactivate the door, we recommend to switch off (unpower) the door control.



On door control: Remove automatic closing time-out to prevent forced closing of the door while presence zone still busy.

## 5.1 Starting up sensor system

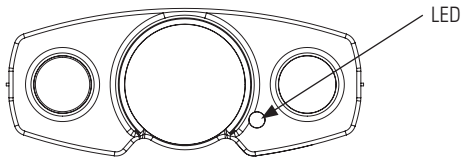
### After connecting the supply voltage to the master sensor:

Master / Slave sensor: the LED lights up **red continuously**, then **blinking** (approx. 90 s). → The sensor will not accept any commands.

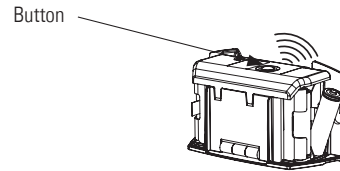


When powered for the first time or with unfinished calibration sequence **the sensor initiates the calibration sequence automatically.**

Master / Slave sensor



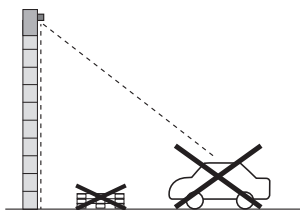
Height sensor



### Calibration / Teach-in sequence

- This procedure can last up to 5 minutes. The LED **blinks red-green-blue** during calibration/teach-in.
- Press **button from the height sensor for 3 seconds** (pairing mode starts), re-attach the cover.

#### 1. Installation calibration



There must not be any vehicles or other objects such as containers, forklifts, etc. in the detection area.

#### Note

You can abort the calibration sequence by cutting power to the sensor. The calibration starts again (according to the description above) once the device has been powered again.

#### 2. Pairing of height sensor with master sensor

Is carried out simultaneously.

#### 3. Teach-in of the door motion parameters

This triggers several cycles with intermediate stops (complete and partial opening and closing movements), that the sensor can learn the industrial door motion parameters.

#### After successful teaching-in the door motion parameters

→ The sensor restarts automatically and LED lights up red, then white.

**Caution:** If the industrial door is open, the teach-in procedure starts with a closing procedure.



#### Note:

In case of failure or changes to the system (e.g. sensor mounting angle, door motion parameters or changing height sensor), the 3 teach-in phases can be restarted **manually**.



In order to avoid condensation, the sensor must not be switched off or disconnected from the mains after start-up.

## 5.2 Configuration via app "Bircher SmartConnect"



Bircher  
SmartConnect

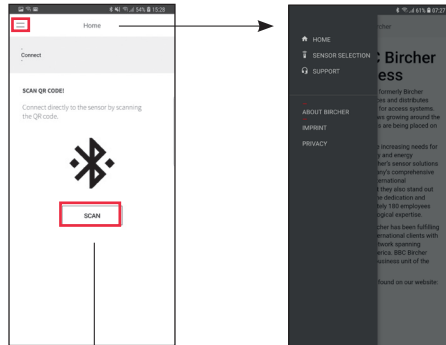
The app is available in Google Play Store

directly via



The screens are shown with Android 8.0.0

### 1. Start app



#### Base Menu

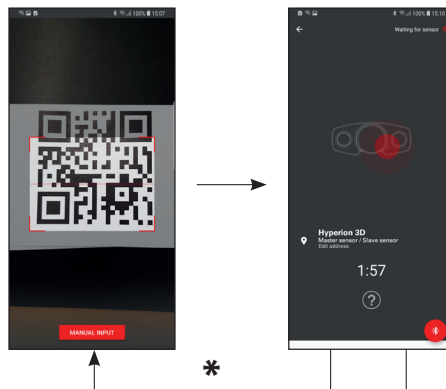
Available before scanning QR code  
(respectively after terminating communication with sensor)

#### Caution:

The sensor is inactive while accessed by the app  
Bircher SmartConnect (blinking red)

### 2. Scan sensor's QR code

QR code to be found  
– at time of delivery:  
in product box  
– after installation:  
in- or outside  
door control cabinet



- Wait for connection to establish
- Master and slave sensors show up joint in app  
Bircher SmartConnect  
(no new scan necessary)

\* To communicate with other sensor  
go back and scan next QR code

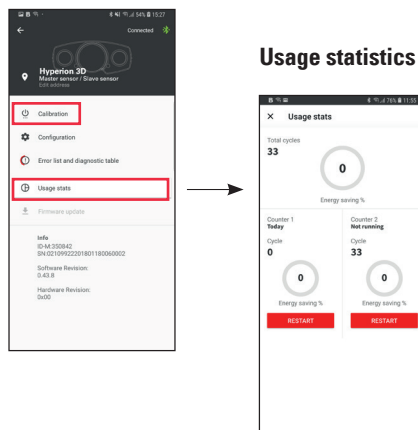
#### QR code 1

for building owner /  
user: Allows access  
only to "Usage statistics"  
and "Base menu"  
(Page 5)

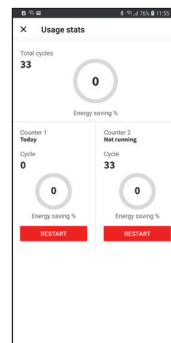
#### QR code 2

for service personnel:  
Allows access to all  
parameters / functions

### 3. a Main screen



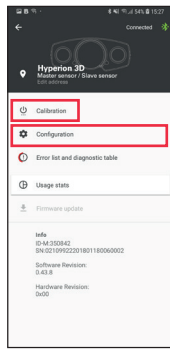
#### Usage statistics



**Configuration**  
see next page

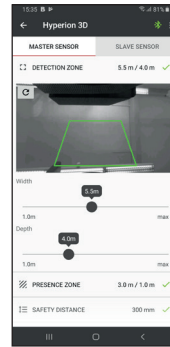
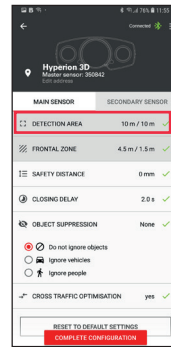
**Calibration**  
(1st install) see next page

### 3. b Main screen



### Configuration

Optimize detection settings or other options



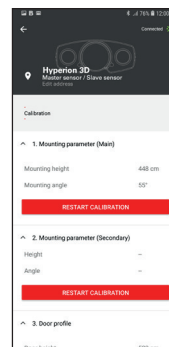
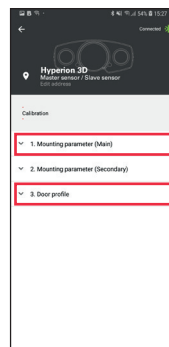
Do not park vehicles in the path of the moving door.

### 3. c Main screen

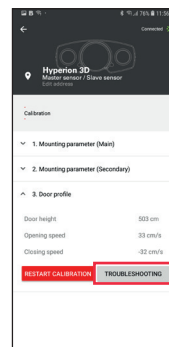
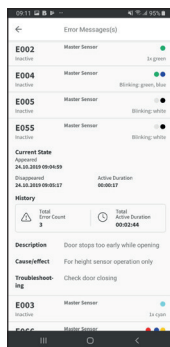


### Calibration

1<sup>st</sup> install

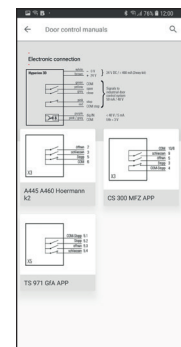


### Error list



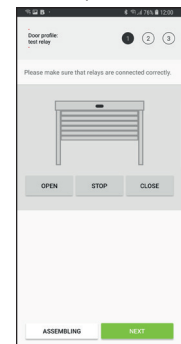
### Troubleshooting

#### Wiring



- On door control:  
Remove automatic closing time-out to prevent forced closing of the door while presence zone still busy.

#### Test outputs



### Note:

- It is **mandatory** to perform a test operation after completing the calibration and the teach-in procedure. The correct door opening height must be monitored during this test operation (object height plus safety distance).

## 6.1 Hyperion 3D-M, Hyperion 3D-S

A list of previous errors can be found in the mobile app.

LED			Description	Troubleshooting
White			Sensor powered, ready for operation	
Red			Power-up	The sensor will not detect objects or react to commands
<b>Red blinking</b>			<b>Configuration</b> mode (parameter change in progress)	The sensor will not detect objects. Exit access by app Bircher SmartConnect
Red/green/blue blinking			Calibration (1 <sup>st</sup> time background teach-in)	The sensor will not detect objects or react to commands
<b>Blue</b>			<b>Vehicle</b> approaching door	To prevent door opening set people/vehicle parameter
Green			Person approaching door	To prevent door opening set people/vehicle parameter
Turquoise			Unknown object approaching door	Door might open to full height
Blue/green blinking			<b>Object in presence zone</b>	Free presence zone
<b>White blinking</b>			<b>Manual operation of door or digital input (dig IN) active i.e. sensor deactivated</b> , see page 3	The automatic operation of the door will be ceased until the door gets closed again by manual command.
red	yellow		Error	Start calibration again by app Bircher SmartConnect or temporary cutting power
red	blue		Error	Press button on height sensor for 3s (remove cover), possibly start calibration again
red	yellow	white	Error	Clean lenses on master sensor (slave sensor). Check light condition > 50 lux.
red	yellow	blue	Error	Check power supply on master sensor, if error only on slave sensor -> Check wiring from master sensor to slave sensor
red	yellow	yellow	Error	Observe temperature specification, possibly add weather hood
red	yellow	red	Error	Exchange master sensor (slave sensor)
red	blue	white	Error	Clean lenses on height sensor
red	blue	blue	Error	Check batteries on height sensor
red	blue	yellow	Error	Restart height sensor by temporary cutting power, possibly change batteries. Check if door can be manually opened by door controller.
red	blue	red	Error	Exchange height sensor
red	white	blue	Error	Check wiring from master to slave sensor, Exchange slave sensor
red	white	red	Error	Check opposite sensor

## 6.2 Hyperion 3D-H

Button	LED	Description	Troubleshooting
<b>Brief</b> press (< 1 s)	1x green	Battery full	
	1x yellow	Low battery	Plan battery change
	1x <b>red</b>	Battery critical	<b>Change battery</b>
Long press (> 3 s, LED flashes white 1x/s)	Blue flashing	Searching for master sensor	
	3x green	Connection to master sensor established successfully	
	3x red	Connection to master sensor failed	Repeat pairing to master sensor: Use app Bircher SmartConnect

## 7 Technical data

Mechanical data	Master, slave sensor	Height sensor
Dimensions (W x D x H)	Approx. 260 x 110 x 55 mm	Approx. 135 x 55 x 75 mm
Material	PC-ABS-GF20, Aluminium	ABS
Color	Black	
IP protection class	IP65	
Operating temperature	Min. -20°C Max. +60°C	
Storage temperature	0 – 40°C	
Mounting height	2.5 m to 7.5 m	

Electrical data	Master, slave sensor	Height sensor
Supply voltage	24 V DC ±15%	4x AA batteries
Power consumption	< 10 W (2way kit)	> 2700 mAh
Outputs	potential-free max. 50 mA / 48 V	–
Digital input	potential-free max. 48 V (5 mA) Threshold 15 V	–

System description		Min.	Max.	Unit
Industrial door	speed	0.1	1.5	m/s
	height	2	10.0	m
Detection zone <sup>1</sup>	width	3	2x mounting height	m
	depth	2	2x mounting height	m
Presence zone <sup>1</sup>	width	2	1.5x mounting height	m
	depth	0.1	3	m

<sup>1</sup> Objects up to 0.3 m height are ignored.

## 8 EU Declaration of Conformity



See attachment

## 9 WEEE



Devices with this symbol must be treated separately during disposal. This must be done in accordance with the laws of the respective countries for environmentally sound disposal, processing and recycling of electrical and electronic equipment.

## 10 FCC approval



This device meets the requirements of Part 15 of the FCC regulations and the RSS-210 standard of Industry Canada.

**Warning:** Changes or modifications made to this device may void the FCC authorisation to operate this device.

## 11 Contact

**BBC Bircher Smart Access**, BBC Bircher AG, Wiesengasse 20, CH-8222 Beringen, [www.bircher.com](http://www.bircher.com)

Made in Switzerland